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APPLICANT : RICOH CO LTD;
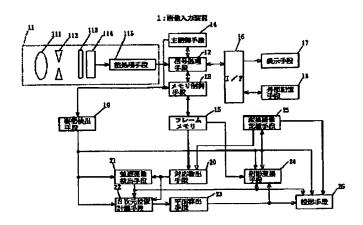
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TITLE : IMAGE INPUT DEVICE AND ITS METHOD

ABSTRACT : PROBLEM TO BE SOLVED: To create a synthetic image with precision by detecting the attitude of an image pickup means in the case of picking-up an image, permitting it to be the image with a part to be superimposed with a reference image, extracting plural feature points in the reference image and detecting corresponding points which indicate parts being the same as those of the feature points in the reference image.

SOLUTION: An object plane is photographed by the image pickup means 11, the image is stored and, at the same time, an attitude detecting means 19 detects the attitude in case of photographing. A correspondence detecting means 20 extracts the feature points in the reference image and detects the corresponding points which indicate the parts being the same as that of the feature points. A progressive motion detecting means 21 obtains a progressive motion vector through the use of the light of sight vectors of the corresponding points with the coordinate system of the reference image as reference. A three-dimensional position measuring means 22 calculates three- dimensional positions as against the respective feature points with the light of sight of the reference image as an original point through the use of the progressive motion vector and the light of sight vectors. Thus, a plane calculating means 23 calculates the equation of the plane to be adapted most at the three-dimensional positions.